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ABSTRACT

The Reading Strategy Project is designed for intermediate grade students who need assistance in the mastery of basic reading skills. The available data demonstrated that the Title I treatment group enhanced their average reading comprehension scores significantly. The gain exceeded the project objective of four normal curve equivalent points. The advisability of having distinct, alternate criteria for program admission; the large number of pupil scores which were unavailable or excluded from these analyses; and the effects of these factors on generalizing data-based conclusions to the program as a whole is subject to question. Recommendations were made by the Cleveland (Ohio) Public Schools Department of Research, Development, and Evaluation to include the use of one consistent measure or operational definition as a criterion for program qualification and exclusion of students who pre-tested as "above average" on standardized reading comprehension tests. A comparison group for the attitude survey to distinguish unique program effect from normal fall to spring attitude changes would be desirable. The study recommended a re-examination of policies resulting in unanticipated outcomes consequent to emphasis on reading comprehension. Continuing reassessment of the relative effectiveness of the Multi-Modality component when compared to the regular Reading Strategy program was suggested. (DWH)

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READING STRATEGY

ESEA TITLE I

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1980-81
EVALUATION REPORT

Prepared by

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DEPARTMENT OF RESEARCH, DEVELOPMENT AND EVALUATION

October, 1981

TM 820 612

READING STRATEGY PROJECT

1980 Title I Evaluation

PURPOSE AND OVERVIEW

The Reading Strategy Project is designed to assist upper elementary pupils in the mastery of basic reading skills. This service is for students who need correction. Supportive teachers, working daily with small groups within the regular classroom, implement and extend the skill instruction initiated by the classroom teacher.

SERVICE SUMMARY

Pupils Served:

5,880 public
396 non-public
6,276 total

Schools: 51 public
10 non-public
61 total

(List of schools in Appendix A)

Grades Served: 4-6 public
4-8 non-public

Staffing:
1 Project Manager, FT
1 Assistant Project Manager, PT
9 Consultant Teachers, FT
88 Reading Strategy Teachers, FT
1 Psychologist, PT
2 Clerks, FT
1 Parent Education Counselor, FT
1 Educational Aide
1 Staff Aide

Years in Operation: 7½

Total Title I Expenditures: $2,339,434

Per Pupil Cost: $373

SUMMARY OF FINDINGS

On a program wide basis (grades 4 to 6) the available data showed that the Title I treatment group of students enhanced their average reading comprehension score significantly more than would have been expected under non-Title I treatment, and that this gain exceeded the project objective. However, there remain questions to be answered concerning: A. the advisability of having two distinct and alternate criteria for program admission, B. the large number of pupils whose scores were either not available or necessarily excluded from these analyses, and C. the question of what effect the above have on generalizing the data based conclusions to the program as a whole. Randomly selected participating pupils showed significant improvement in two out of five reading attitude subscales. Eighty-three percent (133 of 161) of the teachers responding to a survey reported changes had occurred in their instructional procedures through the use of the Reading Strategy diagnostic - prescriptive approach. Ninety-two percent of a 239 parent sample which was surveyed reported satisfaction with their child's reading improvement. Recommendations include changes in the program selection criterion, an addition of a comparison group for assessment of attitude change, a re-examing of policies which result in unanticipated outcomes consequent to sole program emphasis on reading comprehension, and continuing reassessment of the relative effectiveness of the Multi-Modality component when compared to the regular Reading Strategy program.

OBJECTIVES AND OUTCOMES

- Process Objective 1: The Reading Strategy Project will be implemented in public and non-public Title I elementary schools serving pupils with greatest need.

  - Outcome: This objective was achieved. Fifty public and ten non-public schools were selected for Reading Strategy services based on greatest need. All but one of the Cleveland City Schools elementary schools met the poverty index criterion for 1980-81, and so all of these qualifying schools were included in the project. The 10 non-public schools were those which met Title I criteria and in which the principal requested the program.

- Process Objective 2: Nine Reading Consultants will be assigned to public and non-public schools, each one to serve a cluster of schools, to assist Reading Strategy Teachers and Parents.

  - Outcome: This objective was largely achieved. Seven Reading Consultants were assigned to public schools and one to non-public schools. The assignment of schools to consultants was based on the total number of schools to be served, the total number of teachers to be served, the number of new teachers, the distance to be traveled, and so forth. The eight consultants assisted Reading Strategy Teachers (materials, supplies, teaching techniques, etc.) and gave assistance in making arrangements for consultation services to parents, as well as participated in parent programs when requested.

- Process Objective 3: Pupils with reading deficiencies in upper elementary grades will be identified by use of program selection criteria.

  - Outcome: This objective was achieved. City-wide test data was used to identify those students scoring at or below the thirty-third percentile on either the CTBS or SDRT. In some cases, court ordered racial balance required that some students be placed in Title I programs who achieved above thirty-third percentile on the pre-test. However, the students placed for racial balance were not included in the data analyses.

- Process Objective 4: A diagnostic - prescriptive plan will be generated for each pupil eligible for service.

  - Outcome: This objective was achieved. Each identified participant's results of all subtests in the SDRT were reviewed. A plan was generated for each pupil on their need(s) from each subtest of the SDRT. In addition to the SDRT subtests, a pretest and item analysis from the Diagnostic Reading Probes are used to plan lessons for pupils in grades 4, 5. Pretest from the Curriculum for Improving Student Study Skills (CISSS) and item analysis are used to plan lessons for pupils in grade 6. For each student, as a result, an individual reading strategy plan was devised and each pupil was reinforced in comprehension as well as the other areas of identified student weakness.

- Product Objective 1: Participating pupils in grades four, five, and six will evidence an average post treatment score that is at least four NCE units above expectancy. Data for each grade will be based on regression analyses of the Comprehensive Tests of Basic Skills (CTBS) comprehension section, Test 1 administered in April of 1980 and Test 2 in April of 1981.

  - Outcome: Objective 1 was obtained. On a program-wide basis, this objective was obtained. However, there were distinct differences between grades.

    To assess progress toward the attainment of the objective, the test performance of students served by the project was compared with an estimate of what their test performance would have been if they had not participated. This "expected" level of performance was obtained by conducting a regression analysis on the test scores of a comparison group of students who scored above 42 NCE units on the CTBS pre-test who were not served by the project, and Reading Strategy students who scored less than 42 NCE units on the pre-test. This analysis made it possible to predict Reading Strategy students' performance on the Spring, 1981 administration of the CTBS from their performances on the Spring, 1980 administration of CTBS. Their actual scores on the Spring, 1981 CTBS were then compared with their expected scores to determine if participation in the project had raised their performance above the level that would have been expected if they had not participated.

  - Outcome: Grade 4

  - Matched scores (NCE units) available for a sample of grade four participants in the Title I Reading Strategy project and a comparison group (using CTBS Spring, 1980/CTBS Spring, 1981) yielded the following data.

Grade 4

1980 - 1981

Group	N	Mean Score (NCE) Test 1 CTBS-80*	Test 2 CTBS-81**
Served	1077	29.67	31.96
Comparison	2685	58.20	51.73

*Level 1, Form S, administered in grade 3.
**Level 2, Form S, administered in grade 4.

- The application of regression analysis (Model C) to these data gave the following results in NCE units for the served group.

Grade	Predicted $\bar{X}$	Observed $\bar{X}$	Effect of Program	t	Total N	N With Min. Gain of 4 NCE
4	27.05	31.96	+4.91	10.81**	1077	535

**p < .01

The results show that the participants scored significantly higher than it was predicted they would have scored without participation in the project. The difference of 4.91 NCE units between the observed and predicted scores exceeded the criterion set in the objective. Since a positive difference of at least 4 NCE units was obtained, the objective was attained at grade 4. (See Appendix B, for state form based summary of grade 4 regression analysis.)

- Outcome: Grade 5

- Matched scores (NCE units) available for a sample of grade five participants in the Title I Reading Strategy project and a comparison group (using CTBS/CTBS) yielded the following data.

Grade 5

1980 - 1981

Group	N	Mean Score (NCE) Test 1 CTBS-80*	Test 2 CTBS-81**
Served	1100	28.26	34.22
Comparison	2371	56.99	54.44

*Level 2, Form S, administered in grade 4.
**Level 2, Form T, administered in grade 5.

- The application of regression analysis (Model C) to these data gave the following results in NCE units for the served group.

Grade	Predicted $\overline{X}$	Observed $\overline{X}$	Effect of Program	t	Total N	N With Min. Gain of 4 NCE
5	28.13	34.22	+6.09	13.70**	1100	614

**p < .01

The results show that the participants scored significantly higher than it was predicted they would have scored without participation in the project. The difference of 6.09 NCE units between the observed and the predicted score exceeded the criterion set by the objective. Since a difference of at least 4 NCE units was obtained, the objective was attained at grade 5. (See Appendix B, for a state form based summary of grade 5 regression analysis.)

- A Reading Strategy subcomponent of multiple teaching/learning modules existed in the Title I Reading Strategy program at grade 5 only. Matched scores (NCE units) available for these Multi-Modality participants and a comparison group yielded the following data.

Multi-Modality
(Existed Only in Grade 5)

1980 - 1981

Group	N	Mean Score (NCE) Test 1 CTBS-80*	Test 2 CTBS-81**
Served	89	28.33	32.65
Comparison	2371	56.99	54.44

*Level 2, Form S, administered in grade 4.
**Level 2, Form T, administered in grade 5.

The application of regression analysis (Model C) to these data gave the following results in NCE units for the served group.

Grade	Predicted $\bar{X}$	Observed $\bar{X}$	Effect of Program	t	Total N	N With Min. Gain of 4 NCE
5 (Multi-Modality)	28.19	32.65	+4.46	2.70**	89	44

**$p < .01$

The results show that the participants scored significantly higher than it was predicted they would have scored without participation in the project. The difference of 4.46 NCE units between the observed and the predicted score exceeded the criterion set by the objective. Since a difference of at least 4 NCE units was obtained, the objective was attained for the Title I Multi-Modality group. However, when these results are compared with those for the regular Title I program for grade 5, it is apparent that the regular Title I students do better than the Multi-Modality students by more than an extra one third of the average NCE gain score (4.46 compared to 6.09, for a net difference of 1.63 NCE in favor of the regular Title I students).

- Outcome: Grade 6

- Matched scores (NCE units) available for a sample of grade six participants in the Title I Reading Strategy project, and a comparison group (using CTBS/CTBS) yielded the following data.

Grade 6

1980 - 1981

Group	N	Mean Score (NCE) Test 1 CTBS-80*	Test 2 CTBS-81**
Served	447	27.73	35.38
Comparison	2443	54.15	55.08

*Level 2, Form T, administered in grade 5.
**Level 2, Form S, administered in grade 6.

The application of regression analysis (Model C) to these data gave the following results in NCE units for the served group.

Grade	Predicted $\bar{X}$	Observed $\bar{X}$	Effect of Program	t	Total N	N With Min. Gain of 4 NCE
6	33.42	35.38	+1.96	3.40**	447	195

**p < .01

The results show the participants scored significantly higher than it was predicted they would have scored without participation in the project. However, the difference of 1.96 NCE units between the observed and predicted scores did not meet the criterion set by the objective. Since, a positive difference of at least 4 NCE units was not achieved, the objective was not considered attained at grade 6. (See Appendix B, page 15 for a state form based summary of grade 6 regression analysis.)

- Product Objective 2: Randomly selected participating pupils in identified grades will demonstrate significantly improved attitudes towards reading, as reflected in the comparison of mean pre/post test responses on a locally constructed Pupil Attitude Survey.

  - Outcome: Objective 2 was probably attained in part. An established instrument for measuring reading attitudes ('A Survey of Reading Attitudes', by Walbrown, Brown and Engin, 1977) was adapted to meet local program needs (See Appendix C). This condensed and adapted attitude scale is comprised of 35 Likert-type attitude items which can be summated into total and five (factor analysis based) subscale scores.

    A randomly selected group of participating pupils in grades 4-6 were administered this attitude scale both at the beginning and at the end of the 1980-81 school year. The total attitude scale score did not yield a significant difference from pre-test to post-test. However, the factor analysis based subscales clearly indicate change.

    Each item in each subscale, as well as in the total scale of reading attitude, was converted so that the least positive attitude response on a five point scale had a value of one and the most positive attitude response had a value of five. For each pupil, the values of all individual item responses were averaged for each subscale and for the total scale, to give individual subscale and total scale scores in terms of this same one to five scale score range. Pre- and post-test scores for each of the subscales as well as the total are presented in the following table.

Reading Attitude Scores
1980-81

Scale/Subscale	Pre-Test		Post-Test		t-value
	Mean	s.d.	Mean	s.d.	
Reading Anxiety	3.40	.85	3.57	.88	2.69*
Expressed Reading Difficulty	3.10	1.02	3.28	1.07	2.43**
Reading As Direct Reinforcement	3.97	.85	3.80	.95	-2.54**
Reading as Enjoyment	3.44	.97	3.21	1.04	-3.29*
Reading Group	4.20	.75	4.05	.85	-2.77*
Total Scale	3.60	.60	3.56	.67	.68

*$p < .01$
**$p < .05$

Significant improvements ($p < .05$) in both Reading Anxiety and Expressed Reading Difficulty subscales occurred between pre- and post-tests. It might reasonably be argued that these are direct positive program effects. Increased comfort with reading seems to have occurred.

Each of the three remaining subscales (Reading as Direct Reinforcement, Reading as Enjoyment, and the Reading Group Subscales) indicate a significant attitude change in a negative direction. This might be attributable as much to the second semester, end-of-year 'blues' as anything else. Fall to late spring attitudes typically decline. However, it could be argued that it is shakey to attribute one set of changes but not the other to the treatment.

- It would be desirable if a comparison group of otherwise comparable non-Title I pupils could take this attitude scale, also. Comparing the post-test attitude scores of the comparison group with those of the Title I treatment group (while computationally controlling for the effects of differing pre-test scores, if that is the case) would assist in more confidently concluding whether the changes in treatment group attitudes are due to the unique program treatment or are simply due to the passage of the school year, or other such extraneous causes.

- Product Objective 3: As evidenced by their opinionnaire responses, teachers will become sensitized to instructional techniques utilizing the diagnostic-prescriptive approach.

  - Outcome: Objective 3 was considered attained. In June, 1981, a survey was distributed to teachers whose classrooms were served by the project. Eighty-three percent of the classroom teachers (N=161) responding to the survey reported the use of the diagnostic-prescriptive approach was effective to very effective, as evidenced by:

    - improved diagnosis of students individual needs for instruction of specific reading skills.
    - increased flexibility in grouping of students for reading skills reinforcement.
    - improved selection of pupils for the reading skills reinforcement.

  (See Appendix D for the summary of Classroom Teachers Survey.)

- Product Objective 4: Eighty percent of the parents of the project participants will report satisfactory feelings about their child's reading improvement.

  - Outcome: Objective 4 was attained. In June, 1981, surveys were sent to parents of project participants in 37 schools. Ninety-two percent of the sampled parents (N=239) reported satisfaction with their child's reading improvement.

  (See Appendix E for summary of Parents Survey.)

ADDITIONAL FINDINGS

There were several noteworthy additional findings regarding product objective 1, which pertain to program success as measured by standardized reading test scores. First, Model C (regression model) results were compared to results obtained using Model A (pre- to post-test t-test model). Both analyses used the same restricted Model C group of students, and both used the normal curve equivalent (NCE) measuring unit as the unit of analysis. Model A yielded a slightly lower average CTBS Comprehension score gain for the project than did Model C. (See Appendix B for statistical detail). Second, the criterion for admitting students into the Title I Reading Strategy program was that each admitted pupil's pre-test score be at or below the 33rd percentile on either the Stanford Diagnostic Reading Test or the Comprehensive Test of Basic Skills. This procedure was the major factor causing nearly one-fourth of all Title I CTBS pre-test scores to be above the 33rd percentile (See Appendix G for greater statistical detail). Third, the same Model C regression analysis done using the CTBS vocabulary subtest yielded very different results than it did with the CTBS comprehension subtest scores. (See Appendix B for greater statistical detail). For the 1980-81 program year, Model A yields much more favorable results than Model C when the vocabulary subtest is the unit of analysis. A somewhat more thorough and technical presentation of these three additional findings is contained in Appendix I, as well as in Appendices B and G.

A survey was sent to principals (See Appendix F) who had the Reading Strategy program in their schools. Of the thirty-five who responded, 97 percent said that the Reading Strategy program contributed to meeting the reading needs of the participating students. Ninety-four percent of these principals responded that this program was either effective or very effective in improving reading skills of the participating students.

A series of fourteen inservice - staff development sessions or activities were held during the 1980-81 school year for the Reading Strategy project teachers and staff (See Appendix H).

The Reading Strategy project director has presented other findings and assessments, including the following:

- The CTBS test seems to give an inflated score, and so the SDRT has been used as the second of these alternate selectors to give pupils an additional chance at meeting selection criteria and thereby receiving the service they need.

- The comprehension score is not uniformly reflective of program emphasis. For example, in grade four and in the Multi-Modality component, there is a heavy emphasis on vocabulary.

- Throughout the past several years involving court ordered desegregation, the Reading Strategy program has been subjected to numerous and unexpected staff changes, frequently resulting in personnel being placed into the Reading Strategy program regardless of the appropriateness of their previous assignments, expertise, or teaching performance record.

- If there are a number of teacher absences in a given building, the Strategy teacher is pressed into service for the day.

- The reorganization of classes as late as November and December, which in recent years has become commonplace in the elementary schools, results in disruptive midyear rescheduling, with the attendant shifting, dropping and adding of pupils within Reading Strategy serviced classrooms.

CONCLUSIONS

On a program wide basis (grades 4 to 6) the available data showed that the Title I treatment group of students enhanced their average CTBS comprehension NCE score significantly ($p < .01$) more than would have been expected under non-Title I treatment, and that this gain exceeded the project objective of 4 NCE points. However, there remain questions to be answered concerning: A. the advisability of having two distinct and alternate criteria for program admission, B. the large number of pupils whose scores were either not available or necessarily excluded from these analyses, and C. the question of what effect the above have on generalizing the data based conclusions to the program as a whole. Randomly selected participating pupils showed significant improvement ($p < .05$) in both Reading Anxiety and Expressed Reading Difficulty subscales between pre- and post-testing; while a significant attitude change in a negative direction was found for the Reading as Direct Reinforcement, Reading as Enjoyment, and the Reading Group subscales. Eighty-three percent (133 of 161) of the classroom teachers responding to a survey reported changes had occurred in their instructional procedures through the use of the Reading Strategy diagnostic - prescriptive approach. Ninety-two percent of a 239 parent sample which was surveyed reported satisfaction with their child's reading improvement.

Recommendations are as follows:

- It is recommended that in the future one consistent measure or operational definition be used as the criterion for program qualification (such as one identical type of test score, or an average of two types of test scores for all Reading Strategy students), if at all possible.

- Seriously consider excluding from admission into the Reading Strategy program any student who has pre-tested out at above the 33rd percentile -- and more compellingly be excluded if pretesting out as 'above average' -- on either of the standardized reading comprehension tests used (CTBS and SDRT). An illustration: If a student had a CTBS reading comprehension pretest score of 75 percentile and a SDRT reading comprehension score of 30 percentile, it is highly probable that the CTBS score is more reflective than the SDRT of the pupil's real reading comprehension achievement, which is likely well above average. It is much more likely that the pupil had an unreliable SDRT testing than by chance alone guessed his/her way to the much higher CTBS score. Having a significant number of treatment

pupils in the pre-test data base who have scores above the established cutpoint compromises the integrety of the related data analyses and the conclusions drawn therefrom.

- Attention should be given to the supplemental finding that Reading Strategy students score approximately as much lower than expected on the vocabulary subtest as they do higher than expected on the comprehension subtest when compared against the performance of non-treatment students at the same grade in the Cleveland Public Schools. It should be determined if the net reading achievement gain which remains after this apparent (time-on-task based) trade-off is the maximum possible with the available resources. It should be determined if there is a significant net gain, qualitatively speaking. Efforts should be made to determine how the gains in comprehension can be retained or even enhanced while concurrently preserving the average vocabulary score-based percentile rank. These inter-related issues need to be examined in depth, followed by related plans and subsequent action.

- With the Multi-Modality component showing a satisfactory but less dramatic increase in average CTBS comprehension NCE gain that the regular Title I program did during its first year, continuing assessment of the relative effectiveness of this component when compared to the regular Reading Strategy program should be done.

- A comparison group for the attitude survey would be highly desirable in order to sort out unique program effect from ordinary fall to spring attitudes changes. Refinement of the existing attitude scale, including setting it in larger type and revising several items to refer specifically to the Reading Strategy program, would be desirable.

APPENDIX A
READING STRATEGY
ELIGIBLE TITLE I ELEMENTARY SCHOOLS
1980-81 School Year

Public

1. A. J. Rickoff
2. Anthony Wayne
3. Artemus Ward
4. Benjamin Franklin
5. Brooklawn
6. Buhrer
7. Case
8. Charles Lake
9. Chesterfield
10. Clark
11. Cranwood
12. Daniel E. Morgan
13. East Madison
14. Emile B. deSauze
15. Euclid Park
16. Forest Hill Parkway
17. Fullerton
18. Garfield
19. George W. Carver
20. Gordon
21. Gracemount
22. H. W. Longfellow
23. Halle
24. Kenneth Clement
25. Kentucky
26. Lafayette
27. Margaret Ireland
28. Marion Sterling
29. Mary B. Martin
30. Mary Bethune
31. Memphis
32. McKinley
33. Miles Park
34. Milford
35. Mt. Pleasant
36. Nathaniel Hawthorne
37. Oliver H. Perry
38. Orchard
39. Paul Revere
40. Robert Fulton
41. Stephen E. Howe
42. Sunbeam
43. Tremont
44. Union
45. Verda Brobst
46. Wade Park
47. Walton
48. Warner
49. Watterson-Lake
50. William R. Harper
51. Willow

Non-Public

1. Blessed Sacrament
2. Holy Name
3. Holy Rosary
4. Lutheran Memorial
5. Mt. Pleasant Catholic
6. Our Lady of Peace
7. St. Paul Croatian
8. St. Rocco
9. St. Timothy
10. Urban Community

Comparison of Reading Comprehension Achievement Results in the 1980-81 Title I Reading Strategy Project Using Title I Evaluation Models A and C on Indentical Data Sets

Grade	N	Model A (Pre-Post Norm Referenced) Pretest NCE $\bar{X}$*	Post Test NCE $\bar{X}$*	$\bar{X}$ NCE Difference	Model C (Special Regression) Expected Post test NCE $\bar{X}$	Observed Post test NCE $\bar{X}$*	$\bar{X}$ NCE Difference	Number Who Gained +7 (+4) NCE pts. or More	Comparison Group Based Regression Line Pre/Post r (with N)	Slope	Y Intercept
4	1077	29.67	31.96	+2.29	27.05	31.96	+4.91	455 (535)	.50 (2478)	.88454	.80478
5	1100	28.26	34.22	+5.96	28.13	34.22	+6.09	518 (614)	.50 (2250)	.92598	1.96342
6	447	27.73	35.38	+7.65	33.42	35.38	+1.96	145 (195)	.50 (2345)	.74268	12.82754
All Grades	2624	28.75	33.49	4.74	28.59	33.49	4.90	1118 (1344)			

Number of Participants Omitted from Growth Data Because of:

. Missing pretest or post test (Includes entire group of 396 nonpublic students)	979
. Insufficient time in project	1836
. Pretest score used for regression was above 42 NCE	837
Total Number of Participants Omitted from growth Data	3652

*The nationally normed NCE scoring units for the Comprehensive Test of Basic Skills were used.

Comparison of Reading Vocabulary Achievement Results in the 1980-81 Title I Reading Strategy Project Using Title I Evaluation Models A and C on Indentical Data Sets

Grade	N	Model A (Pre-Post Norm Referenced) Pretest NCE $\bar{X}$*	Post Test NCE $\bar{X}$*	$\bar{X}$ NCE Difference	Model C (Special Regression) Expected Post test NCE $\bar{X}$	Observed Post test NCE $\bar{X}$*	$\bar{X}$ NCE Difference	Number Who Gained +7 (+4) NCE pts. or More	Comparison Group Based Regression Line Pre/Post r (with N)	Slope	Y Intercept
4	914	30.03	37.36	+7.33	38.58	37.36	-1.22	467 (548)	.43 (2436)	.67148	18.40942
5	796	30.40	32.91	+2.51	36.26	32.91	-3.35	270 (463)	.53 (2601)	.85428	2.36491
6	430	29.05	34.69	+5.64	42.86	34.69	-8.17	214 (277)	.45 (2034)	.62329	21.52155
All Grades	2156	29.75	34.91	+5.16	38.29	34.91	-3.38	951 (1288)			

Number of Participants Omitted from Growth Data Because of:

. Missing pretest or post test (Includes entire group of 396 nonpublic students)	934
. Insufficient time in project	1836
. Pretest score used for regression was above 42 NCE	1350
Total Number of Participants Omitted from growth Data	4120

*The nationally normed NCE scoring units for the Comprehensive Test of Basic Skills were used.

APPENDIX C

Condensed, Revised and Adapted Version of
A SURVEY OF READING ATTITUDES
Intermediate Level: Form A
(Third Experimental Edition, 1977)
by
Wallbrown, Brown and Engin

DO NOT MAKE ANY MARKS ON THIS SIDE OR THE BACK
UNTIL THE DIRECTIONS ARE COMPLETED

DIRECTIONS

Fill in your name in the spaces provided below. Do not make any marks in the box below it. Your teacher will complete the items in the box. Now we will read the directions aloud for you.

The statements in this booklet are concerned with the way you feel about reading. There are no right or wrong answers because students have different opinions and feelings about their school work. For example, if I say "Reading is more fun than math." I'm sure the students in this room would not all agree. Some people would disagree because they enjoy math more than reading. Probably some other students would not be sure about how to answer because they like both reading and math. So, you can see there are no right or wrong answers. The important thing is to mark the answer that shows how you really feel or what your opinion is.

I will read each statement aloud while you read it silently from the page. After each statement has been read, you are to decide how you feel about it and then circle the choice which tells how you feel. Circle A to show that you agree with a statement. Circle B if you are not sure how you feel about a statement. Circle C to show that you disagree with a statement. Do not use a pen. Use a soft-lead pencil (#2½ or less). Erase completely any answer you wish to change.

Please be sure that you mark the answers which show how you really feel rather than the way I want you to mark them. The letters and what they stand for are written at the top of the question page (reverse side of this page).

LAST NAME (36-45) FIRST NAME (47-55) M.I. (57)

DO NOT MARK IN BOX BELOW

STUDENT I.D. NO. (59-67) RACE (69) SEX (71) GRADE (73) SCHOOL (75-78)

DATE ATTITUDE SURVEY GIVEN: MONTH (10-11) DAY (13-14) YEAR (16-17)

STUDENT'S BIRTHDATE: (19-20) (22-23) (25-26)

1980-81 TOTAL DAYS ABSENT (Excused and Unexcused) BY QUARTER:

1ST (28-29) 2ND (31-32) 3RD (34-35) 4TH (37-38)

	VOCABULARY	COMPREHENSION
FALL 1980 SD NCE:	(40-41)	(43-44)
SPRING 1980 CTBS NCE:	(46-47)	(49-50)

SJZ (12/1/80)

A - agree B - not sure C - disagree

EXAMPLES	Agree	Not Sure	Disagree
a. Reading is more fun than math.	A	B	C
b. I often read comic books.	A	B	C
1. I need a lot of help in reading.	A	B	C
2. I would like to help someone else who can't read as well as I.	A	B	C
3. I get upset when I think about having to read.	A	B	C
4. I can read but I don't understand what I've read.	A	B	C
5. Most of the srories in our reading books are interesting.	A	B	C
6. I am a slow reader.	A	B	B
7. I enjoy helping other students with their reading.	A	B	C
8. When I am at home, I read a lot.	A	B	C
9. I often feel sick when I try to read a long assignment.	A	B	C
10. We learn lots of interesting things in our reading group.	A	B	C
11. I enjoy looking up information in the encyclopedia.	A	B	C
12. When I have free time in class, I read a book.	A	B	C
13. I get upset when we take a reading test.	A	B	C
14. I get a lot of enjoyment from my reading.	A	B	C
15. Our reading group is usually enjoyable.	A	B	C
16. No matter how hard I try, I just can't learn to read well.	A	B	C
17. I get nervous when I have to read a lot.	A	B	C
18. When I read an interesting story, I like to tell my friends about it.	A	B	C
19. My parents think I need to try to improve my reading.	A	B	C
20. Sometimes I miss a question on a test because I read poorly.	A	B	C
21. My friends and I often discuss what we have read.	A	B	C
22. I enjoy telling my family about the things we read in school.	A	B	C
23. Sometimes I have nightmares about reading.	A	B	C
24. I learn a lot in our reading group.	A	B	C
25. I like to listen to other people tell about the books they have read	A	B	C
26. I worry a lot about my reading.	A	B	C
27. Reading is one of the most interesting things which I do at home.	A	B	C
28. I get a sick feeling in my stomach when I think about reading.	A	B	C
29. When I try to read, I usually get tired and sleepy.	A	B	C
30. Our reading group is one of the best parts of school.	A	B	C
31. I'm the kind of person who really enjoys a good book.	A	B	C
32. The teacher has to help me a lot when we are in reading group.	A	B	C
33. I usually read several books during summer vacation.	A	B	C
34. A book would make a good present for me.	A	B	C
35. I listen carefully when other students are telling about what they have read.	A	B	C

APPENDIX D

READING STRATEGY
1980-1981

CLASSROOM TEACHER SURVEY

Frequency and Percentage of Classroom Teacher Responses
In Each Rating Category
(N=161)

Selected students in your classroom have participated in the Reading Strategy project. We would like your viewpoint of the services provided the students through the Reading Strategy project.

Please circle the answer you select.

1. Has the use of the diagnostic-prescriptive approach had any effect on your awareness of individual student's reading needs? This approach was

Very Effective	Effective	Undecided	Ineffective	Very Ineffective	No Response
52 (32%)	81 (51%)	20 (12%)	1 (.17%)	4 (2%)	3 (2%)

Comments:

- Very helpful in diagnosing individual needs.
- Students became more interested in reading.
- Discovered exactly where help was needed.
- The children perform better in reading due to the individual attention.
- Excellent as a supplement to classroom instruction.
- The diagnostic-prescriptive approach assisted the teacher in planning and organizing skill groups.
- I have a better idea of what each child can do.
- Gave a specific area for indepth work needs.
- Provided guidelines for skill level work.

APPENDIX D (continued)

2. Have you observed changes in the Reading Strategy student's reading habits? YES 117 (73%) NO 34 (21%) NO RESPONSE 10 (67%)

   . What did you observe:

      . Students were willing and ready to do the skills.

      . The children utilized skills in their basal texts.

      . Improved attitude and skills mastery.

      . Students took more interests in reading assignments.

      . Willingness to contribute in reading group discussions, improved reading skills in both oral and independent work.

3. In your opinion, what is Reading Strategy's unique contribution to the student's progress in reading?

   . The student is made more aware of where his weak areas are in reading and is encouraged to improve.

   . The students seems to enjoy reading as they are applying the skills.

   . An increased awareness of the rules and purpose of each skills.

   . The teacher (Reading Strategy) is able to work on a more individual basis.

   . Reinforces skills which teacher has taught.

   . Reading Strategy brings the slower reader to a point so that he/she can benefit more from regular classroom work in Language.

   . The opportunity to work in a small setting contributes to the students progress.

   . The unique worksheets games etc. for follow up of skill lessons.

4. If changes were implemented, what would you recommend?

   . Servicing a wider range of children with reading difficulty.

   . If present classroom number continue-Reading Strategy will have to be done in a separate room since the children are now wall to wall with NO corner available.

APPENDIX D (continued)

- See to it teachers have reinforcement worksheets of skills taught be the reading consultant, also a set of masters for the classroom teachers.
- More time if possible.
- Individualized instructions were very beneficial to students. The one to one relationship tended to build confidence and students performed better than they would have in a large group settings.
- The program is excellent.
- Strategist should use another room available other than the classroom.

APPENDIX E

READING STRATEGY
1980-1981

PARENT SURVEY

Frequency and Percentage of Parent Responses
In Each Rating Category
(N=239)

Your child _____ has received reading help through the Reading Strategy project. Please tell us what you think about the Reading Strategy project.

*Circle the answer you select.

1. Are you satisfied with your child's reading improvement this school year?

YES 222 (92%) NO 13 (6%) NO RESPONSE 4 (2%)

. How satisfied are you with your child's reading?

Very Satisfied 5	Satisfied 4	Undecided 3	Dis-sat-isfied 2	Very Dissatisfied 1	No Response
69 (29%)	142 (59%)	16 (7%)	0	6 (2.5%)	6 (2.5%)

Comments about their child's reading improvement.

. "She has improved greatly, still needs reading assistance."

. "Melinda has really improved. I am very proud of her progress."

. "I was satisfied because when she started the program she was a poor reader."

. "She enjoys reading and understands much better."

. "Yolanda enjoyed the classes because the teacher provided individual/small group attention."

2. Would you like your child to continue in the Reading Strategy program?

YES 225 (94%) NO 10 (4%) NO RESPONSE 4 (2%)

APPENDIX E (continued)

Comments to why you would like your child to continue in Reading Strategy.

- "Kelly is slow in reading, the reading strategy project has built his confidence."
- Have meetings at the beginning of the year to explain goals the children hope to accomplish. Have other meetings to report progress.
- A guide for parents to follow the reading skills for mastery during the school year.

3. Did you attend any of the Reading Strategy meetings held for parents this school year at your child's school?

YES 76 (32%) NO 163 (68%)

Table

Parent Attendance

N	Times Attended
6	3
11	2
59	1(at least)

Replies to "how were the materials at parent meetings helpful?"

- Presented ways to help your child e.g,

  -reading newspaper and magazine ads.

  -making the grocery list.

  -reinforcing lessons that are sent home.

  -making games that encourage reading to be fun.

  -providing a handbook for parents in reading skills.

- It provided the materials and ideas for me to help my child at home.

APPDENDIX E (continued)

4. What reading information would you recommend be presented at the parent meetings?

   . Continue to make available reading materials for home use e.g.,

   -Construction of reading games.

   -Circulation of pamphlet with activities for parents to help their child with reading skills.

   -Present ideas on how to use magazines and newspapers to reinforce reading at home.

   -Worksheets that can be studied by the child with the parent.

APPENDIX F

READING STRATEGY
1980-1981

PRINCIPAL SURVEY

Frequency and Percentage of Principal Responses
In Each Rating Category
(N = 35)

Selected students in your school have participated in the Reading Strategy program. We would appreciate your view point of the services provided the students through Reading Strategy.

*Circle the answer you select.

1. Does the Reading Strategy program contribute to meeting the reading needs of the participating students?

YES 34(97%) NO 1(3%)

2. How effective is the Reading Strategy program in improving reading skills of the participating students?

18 (51%)	15 (43%)	1 (3%)	1 (3%)	0%
Very Effective 5	Effective 4	Undecided 3	Ineffective 2	Very Ineffective 1

Comments:

- The program is effective when staffed with a competent strategist.
- This is an extension of what the classroom teacher does and what the child needs.
- Teachers comments indicate that the program is effective.
- Teachers specifically requested that the program remain the same.
- Small group instruction is the key.
- Builds self-esteem through mastery.

3. If changes were implemented, what would you recommend?

Responses:

- Assignments of students based on teacher judgement and test scores.
- Selecting children who need the service most, regardless of racial balance.
- Strategists be allowed to work with students outside the school's classroom (to provide student's greater concentration).
- Reassign effective strategist to the same building.
- Assign experienced teachers to the program, to warrant the time the student is released for reinforcement.

Frequency Table of Title I Reading Strategy Grade 4
CTBS Reading Comprehension Pre-Test NCE Values

NCE VALUE	FREQ	ADJ PCT	CUM PCT	NCE VALUE	FREQ	ADJ PCT	CUM PCT	NCE VALUE	FREQ	ADJ PCT	CUM PCT
1	23	1	1	40	90	6	67	55	23	1	95
7	11	1	2	41	62	4	71	56	22	1	97
13	27	2	4	43	44	3	74	58	6	0	97
15	41	3	6	44	50	3	77	59	8	1	98
19	52	3	10	46	39	2	79	61	11	1	98
22	78	5	15	47	33	2	81	63	11	1	99
25	100	6	21	48	31	2	83	66	4	0	99
27	107	7	23	49	34	2	85	68	4	0	100
30	102	6	34	50	33	2	88	71	2	0	100
32	121	8	42	51	27	2	89	76	2	0	100
34	106	7	49	52	25	2	91	80	1	0	100
36	103	7	55	53	22	1	92	99	2	0	100
38	89	6	61	54	25	2	94				

Number (%) of Title I Group Pre Test NCE Values Above 42: 459 (29.2%)

MEAN NCE	35.742	STD. ERR.	0.318	MEDIAN	35.670
MODE	32.000	STD. DEV.	12.603	VARIANCE	158.827
KURTOSIS	0.805	SKEWNESS	0.078	RANGE	98.000
MINIMUM	1.000	MAXIMUM	99.000		
VALID CASES	1571	MISSING CASES	227		

Frequency Table of Title I Reading Strategy Grade 5
Reading Comprehension Pre-Test NCE Values

NCE VALUE	FREQ	ADJ PCT	CUM PCT	NCE VALUE	FREQ	ADJ PCT	CUM PCT	NCE VALUE	FREQ	ADJ PCT	CUM PCT
1	18	1	1	37	136	9	71	57	11	1	98
7	19	1	2	40	95	6	78	59	9	1	99
10	35	2	5	42	60	4	82	60	6	0	99
13	58	4	9	44	45	3	85	62	3	0	99
15	56	4	13	46	47	3	88	63	4	0	99
19	87	6	18	48	40	3	91	64	2	0	100
23	118	8	26	49	27	2	92	66	2	0	100
26	105	7	33	51	24	2	94	68	2	0	100
29	144	10	43	53	22	1	96	70	1	0	100
32	140	9	53	54	15	1	97	83	2	0	100
34	139	9	62	56	9	1	97				

Number (%) of Title I Reading Strategy Group Pretest NCE Values Above 42: 271 (18.3%)

MEAN NCE	32.142	STD. ERR.	0.325	MEDIAN	32.218
MODE	29.000	STD. DEV.	12.504	VARIANCE	156.354
KURTOSIS	0.129	SKEWNESS	0.083	RANGE	82.000
MINIMUM	1.000	MAXIMUM	83.000		
VALID CASES	1481	MISSING CASES	102		

Frequency Tables of Title I Reading Strategy Grade 6
CTBS Reading Comprehension Pre-Test NCE Values

NCE VALUE	FREQ	ADJ PCT	CUM PCT	NCE VALUE	FREQ	ADJ PCT	CUM PCT	NCE VALUE	FREQ	ADJ PCT	CUM PCT
1	11	2	2	33	33	5	58	51	10	2	95
7	26	4	6	35	44	7	65	52	8	1	96
13	30	5	11	38	43	7	72	54	5	1	97
15	28	5	16	40	47	8	79	55	7	1	98
19	27	4	20	42	19	3	83	56	4	1	99
22	43	7	27	44	22	4	86	58	7	1	100
25	43	7	34	46	18	3	89	68	1	0	100
28	54	9	43	47	15	2	92	75	1	0	100
31	57	9	52	49	9	1	93				

Number (%) of Title I Group Pre-Test NCE Values Above 42: 107 (17.5%)

MEAN NCE	31.132	STD. ERR.	0.517	MEDIAN	31.272
MODE	31.000	STD. DEV.	12.783	VARIANCE	163.410
KURTOSIS	-0.203	SKEWNESS	-0.099	RANGE	74.000
MINIMUM	1.000	MAXIMUM	75.000		

VALID CASES 612 MISSING CASES 51

APPENDIX H

READING STRATEGY

Inservice - Staff Development

1980 - 1981

September 17, 18, 19	Cluster Inservice - Project Staff.
October 16	A.M. Non Public Teachers in service. P.M. Modalities Center teachers in-service.
November 3	Inservice - New teachers
November 17	Inservice - Teachers servicing #6 "Curriculum for Improving Student Study Skill."
December 18	Staff Development "Mastery Learning" Patricia Bowman
January 11	"Evaluation, 1979-81 - Results & Interpretation." Gwendolyn Morton-Watts Division of Research and Development
January 21	In-Service, selected teachers - "Developing Reading Activities for Newspaper Publication"
January 27	Staff Development "Black English/ Educational and Social Implication" Dr. Howard Mims, Cleveland State U.
February 25	Skills Share Fair
February 27, 28, 29	Inservice - New Teachers
March 13	Cancelled
March 16	Inservice - Modalities Center Teachers
March 20	Staff Development - (Staff and 10 project teachers) Schools Vision Forum. Holiday Inn, Warrensvill Hts.
April 24	Project Meeting
May 19	Staff Development - "Title I Projections for 1981-82" Dr. John P. Nairus.

ADDITIONAL FINDINGS SUPPLEMENT

There were several noteworthy additional findings regarding objective one, which pertained to program success as measured by standardized reading test scores.

First, the data were reanalyzed using the Model A design instead of the Model C design, which was pre-selected and used as the primary analytic method. For comparability with the Model C analysis treatment group, those Title I treatment group pupils scoring above 42 NCE on the pre-test were also excluded during the Model A based analysis. On a program-wide basis, using the CTBS comprehension subtest score and the same restricted set of students used with Model C (regression model), Model A (nationally normed NCE score based pre- to post-test t-test model) does not yield as great an NCE gain as Model C does. Model A yielded a 4.7 NCE average gain; Model C yielded a 4.9 NCE average gain (See Appendix B for more data detail). This Model A result would be even less favorable (as well as would the Model C result) if those "too high" (and thus excluded) pre-test score students had been included in the analysis. This is deducible both inferentially (regression towards the -- treatment group -- mean) and directly/empirically from the collected test scores data.

Second, the criterion for admitting students into the Title I Reading Strategy program is that each pupil score less than 33rd percentile (approximately equal to a 41 NCE) on either the Stanford Diagnostic Reading Test (SDRT) or the comprehensive Test of Basic Skills (CTBS). As a result of this procedure, many students who score above the 33rd percentile on one test will score below on the other. Many students who score below the 33rd percentile on the CTBS will score noticeably above that on the SDRT. For many of these students, that CTBS score is not a typical performance, and it can be expected that a retesting on that or equivalent form of the CTBS will result in a higher CTBS score. Thus, many who score misleadingly low on one test will be included in Title I, and their inclusion consequently has to artificially inflate average end-of-treatment CTBS post-test score. Similarly, some may have scored higher on the CTBS than on the SDRT or could have been otherwise expected; due, perhaps, to such things as lucky guessing. Thus the average percentile rank of these types of CTBS pre-test scores can be expected to drift backwards (regress towards the treatment group mean) if retested immediately or prior to treatment. Both of these two types of cases represent measurement errors which, if pervasive, can invalidate the data set and conclusions drawn from it. Since they act in opposite directions, their effect on related group statistics might be partially or nearly cancelled out by the effects of the other. Exactly to what extent is typically not directly determined. The cause of present concern is that:

- In Model C as contrasted to Model A, treatment group pre-test scores above the pre-determined 'cut' score are omitted from the analyses, thus eliminating the possibility of the erroneously 'too high' scores offsetting the erroneously 'too low' scores.

- A very large percentage (24.2%) of all otherwise available scores, grades 4-6, are lost from the Model C analyses. This is in addition to scores lost for other reasons.

- Of those Title I students who have CTBS pre-test scores above 33 percentile, a surprisingly large number scored in the top two quartiles, with a couple of scores even being at the 99th percentile level! (See Appendix G for grade by grade 'normalized' percentile score, i.e. NCE distributions)

Third, the same regression analysis done using the CTBS vocabulary subtest yields very different results than it does using the comprehension subtest (See Appendix B). Although Reading Strategy students compare favorably with the comparison group with respect to the comprehension score, this did not hold true with respect to the vocabulary score! This suggests a differing program emphasis between Reading Strategy and comparison group students. If we were using the vocabulary score as the program criterion this year instead of the comprehension score, Model A would give us better results than Model C.

This comparative result could (and probably would) vary from year to year. There are important differences between Model A and Model C and what they do - both in terms of analytic procedure and the constructs and criteria they assess. Model A compares the treatment group to a national norm. Model C compares the treatment group to the non-treatment (comparison) group in the same school district. This has the effect (for Model C) of fairly validly determining whether the treatment group has done better, worse or the same as it would have done had it been left in a non-treatment situation within the same school district. In general, if non-treatment group achievement history has shown that children in the school district typically slip in their nationally normed (NCE) percentile rank, Model C probably will yield more favorable and valid results for assessing the merit of the treatment group's special program effect in the school district. However, if the educational dynamics of the system for a given year are such that the average non-treatment (comparison) group pupil enhances his/her comparative nationally normed standing, assessment of the treatment group's special program effect would to that extent be more favorable if Model A was used.